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RUPTURE OF BOTH MEMBRANÆ TYMPANI FROM A FALL ON THE HEAD. ESCAPE OF BLOOD FOLLOWED BY A WATERY DISCHARGE. FRACTURE OF THE TYMPANIC PORTION OF BOTH TEMPORAL BONES.

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May 28, 1885. I was requested by Dr. Ap. Morgan Vance to see John Ridge, age fifty-four. The following history was given. Five days previous to my visit the patient had fallen through an elevator hatchway a distance of twelve feet, alighting on his head and hands. There was only temporary unconsciousness or a stunning, but it was not followed by vomiting. When examined by the surgeon, he was found to have sustained a compound fracture of both bones of the right forearm, with bruises on the chest, an injury to the lower jaw, and profuse bleeding from both ears. The fracture was treated in the proper manner. In two days gangrene of the extremity occurred and amputation of the arm at the upper third was done.

On the day before my visit the bleeding from the ears, which had amounted to several drams daily, had given place to a pale straw-colored fluid. This filled the meatus and trickled down, saturating the bed-clothing. The ticking of the watch could not be heard, but the sound of the tuning-fork was perceptible. When the fork was placed in contact with the mastoid, its vibrations seemed more intense and were heard twice as long as when it was held in the air in front of the auricle. Voice in stress slightly above ordinary conversation was heard. Tinnitus was intense. There was some difficulty in speech, in consequence of the injury to the jaw, which was found on examination to have a

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splintered fracture, one tooth being driven through the bone and coming out behind the symphysis.

With absorbent cotton the external canal was carefully cleansed and on inspection a linear rupture in each membrana tympani was found. On one side this was situated vertically in front of the malleus handle. On the other it extended obliquely from above in front downwards and backwards below the umbo. Through these ruptures the pale yellowish pulsating fluid oozed freely, and in such quantities as to quickly obstruct the view. This flow continued for ten days, several ounces being lost. Gradually it diminished in quantity and became purulent in character, then ceased. No cleansing of the ears by the syringe was attempted, nor was inflation practised, as the patient was not expected to live. When the parts had become healed the middle ear was inflated for a few days by Politzer's air-bag and Valsalva's method. Three months after the injury the patient was well. The hearing-distance for the watch and voice was perfect. On examination of the membranæ tympani a small white line marked the seat of the rupture.

Writers on the subject of fractures of the temporal bone do not agree as to the symptoms necessary to establish a diagnosis. Simple ruptures of the membranæ tympani are of comparatively common occurrence. Injuries as extensive as those sustained in this case are generally fatal from the damage done to the cranial contents. If death does not occur the hearing is usually totally and permanently destroyed.

Buck[1] says "when a fall or blow upon the head is followed by bleeding from the ears, no matter how trivial, we may diagnose a fracture of the temporal bone in the neighborhood of Shrapnell's membrane, and probably in the line of the Glaserian fissure." The works of Holmes and Erichsen on general surgery maintain that bleeding from the ears by itself cannot be considered a sign of much importance. Wilde remarks "that hemorrhage is strong presumptive evidence that fracture has occurred. . . . Subsequently in cases of fracture a clear pale straw-colored fluid flows out of the ear in immense quantities so as to saturate the bed on which the patient lies."

[1] "Diagnosis and Treatment of Ear Disease," p. 290

The symptoms in the case here reported are highly significant of fracture of both temporal bones through the middle ear; possibly a disjunction of the squamo-parietal suture. Inspection gave no evidence of the situation of the lesion beyond excluding a fracture of the bony canal. The amount of injury done the lower jaw might have led to this belief. The injury to the membranæ tympani was similar on the two sides. The pulsations were well marked, being plainly visible in the column of fluid filling the canal. The ultimate complete restoration of the hearing power gives further evidence of fracture only of the bony roof of the middle-ear cavity close to the membranæ tympani.